



Coat Color and Trait Certificate

Call Name:	Buck	Laboratory #:	5002
Registered Name:	-	Registration #:	-
Breed:	Labrador Retriever	Microchip #:	985112003119351
Sex:	Male	Certificate Date:	Feb. 5, 2015
DOB:	July 2014		

This canine's DNA showed the following genotype(s):

Coat Color/Trait Test	Gene	Genotype	Interpretation
E/e locus (Extension)	MC1R	E/E	Black
K locus (Dominant black)	CBD103	K ^B /K ^B	No agouti expression allowed
b ^c locus (Brown)	TYRP1	B/B	
b ^d locus (Brown)	TYRP1	B/B	B/B - Black coat, nose and foot pads
b ^s locus (Brown)	TYRP1	B/B	

Interpretation:

The K locus genotype for this dog is K^B/K^B which prevents expression of the agouti gene (A locus) and allows for solid eumelanin (black pigment) production in pigmented areas of the dog. However, this dog's coat color is also dependent on its genotypes at the E and B loci. This dog will pass on K^B to 100% of its offspring.

This dog carries two copies of E which allows for the production of black pigment. However, this dog's coat color is also dependent on the K and B genes. This dog will pass on E to 100% of its offspring.

The overall B locus genotype for a dog is determined by the combination of the genotypes present at the b^c, b^d, and b^s loci. The b^c, b^d, and b^s variants confer brown when at least one of these DNA changes is present on both genes of the dog at the B locus. This dog carries two copies of B at the b^c, b^d, and b^s loci which combines to make the overall B locus genotype of this dog B/B. However, this dog's coat color is also dependent on the E and K genes. This dog will pass on one copy of B from the b^c, b^d, and b^s loci to 100% of its offspring. Thus, this dog can produce offspring with a black coat, nose and foot pads.

Paw Print Genetics™ has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.